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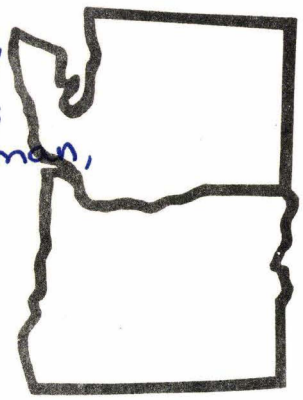

USDA FOREST SERVICE

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IMPORTANT RANGE IMPLICATIONS OF NEW PONDEROSA PINE STOCKING GUIDES

HELP FOR MULTIRESOURCE FOREST OFFICERS

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BY

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ABSTRACT

How to cope with increasing forage demand, while maintaining timber production on a relatively stable budget, is a concern of many "East Side" multi-resource forest officers in Oregon and Washington. Insight to this concern is provided by describing its relationship to recently adopted U. S. Forest Service, Region 6, ponderosa pine stocking guides and forthcoming economic guides for seeding forage on forested ranges. Some timber-related effects of the new stocking guides are reviewed, important range implications associated with the resulting open forest are discussed, and the significance of timber-range management coordination is emphasized.

Introduction

A recent USDA inter-agency report (USDA, 1974) states "An increase in production capacities of Federal ranges and an increase in range livestock grazing would assist in easing the pressures on the needs for feed grain supplies at a time when the costs of these feeds have been increasing due to increased exports" and "Development of the ranges of the National Forest System to their economic potential for contributing more effectively to livestock production should be a USDA goal."

Statements by the Chief of the Forest Service (McGuire, 1973) and the Regional Forester's range management policy statement (Forest Service Manual, Region 6, 2203.1, amendment 26, January 1975) make it clear that forested ranges are considered to be an important source of increased forage yields for domestic red meat production, both nationally and in Region 6. And since timber production/management has not been de-emphasized, both must be administered with a relatively stable budget.

The problem of increasing domestic forage production is compounded by environmental considerations that have caused some previously grazed acres to be removed from domestic forage production and reduced grazing intensity on others. This brief will help multiresource forest officers focus on forage production opportunities associated with the new stocking guides that are compatible with timber benefits.

The 1974 Forest Service (Region 6) ponderosa pine stocking guides[1/] recommend stocking precommercially-thinned sapling stands with 180 stems per acre on site III and IV, when the commercial thinning limit is 10 inches DBH. Thinning stands to this density creates an open forest with implications to many forest resources. Some timber-related effects are quite evident. The thinned stand grows at an accelerated rate (Barrett, 1970 and 1973) and remains open and growing at an acceptable rate, without a second precommercial thinning, until the 10-inch DBH commercial limit is achieved. Fewer, but larger, trees are produced since all growth following the precommercial thinning accrues on stems that will be commercially harvested, except for a small amount of mortality. Finally, research has shown that precommercial thinning is an attractive investment when the allowable cut effect is applicable (Sassaman et. al., 1973).

To date, range implications of the reduced stocking levels have received less attention than the timber effects. Here, we focus on the important range implications associated with the current ponderosa pine stocking guides and our ongoing cooperative research efforts involving ponderosa pine thinning alternatives and forthcoming economic guides for seeding forage on forested ranges.

1/ Forest Service Manual, Silviculture Examination and Prescription Handbook, 2409.26

Range Implications

Perhaps the most obvious range implication of wider tree spacing is the openness of forest stands and their potential to produce ground vegetation. In one northeastern Oregon study, production of ground vegetation increased from 129 pounds of grass and two pounds of browse per acre to 550 pounds of grass and 50 pounds of browse per acre in the first few years after opening dense ponderosa pine thickets without seeding grasses.[27] McConnell and Smith (1970) also report that a gain in natural forage production occurs when overstocked stands are thinned and Vallentine (1971) reported forage production increases of 300 to 400 percent or more with vegetation conversion. Greater forage production may be realized sooner in thinned stands when desirable forage species are seeded in soil disturbed by the slash treatment operation (machine piling and burning) that often follows precommercial thinning (Sassaman and Fight, 1975). This practice establishes a desirable ground cover before the low value, noxious, or early-drying and flammable annual species recover naturally (Garrison, 1961). In our opinion, seeding forage in these thinned stands represents the most viable opportunity presently available to increase and more fully utilize transitory range when timber and range management plans are coordinated.

Ongoing Cooperative Research

PNW forest economists have consulted with regional timber and range specialists for some time. Cooperative efforts have led to the development of a tool to evaluate forage-seeding investments. In a forthcoming Journal of Range Management article, titled, "A Tool for Estimating the Financial Returns on Forage Grasses Seeded in Thinned Ponderosa Pine" (Sassaman and Fight, 1975), a method is described that will serve as the basis for future economic guides that are planned for incorporation in the Region 6 supplements of the Forest Service manual. Work is also continuing on the development of detailed economic precommercial thinning guides for ponderosa pine.

Summary

Many "East Side" multiresource forest officers on national forests in Oregon and Washington have already experienced an increase in the demand for summer range. Their experience re-enforces statements by national and regional Forest Service administrators concerning the importance of forested ranges as a source of forage for domestic red meat production. In our opinion, the appearance of new ponderosa pine stocking guides is timely, since forage production opportunities are associated with these stocking guides. Coordination of timber and range management activities may increase forage production substantially without having a detrimental effect on timber growth. Such coordination of forest resource management plans and practices is a practical approach to the conflicting demands for increased forage and timber production with relatively stable budgets, manpower, and landbase.

2/ Grant County Resource Committee, 1974 statistics, presented to Oregon Legislative hearing January 1975.

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